

# NEW KIA EV9 RECEIVES EV-OPTIMISED MERIDIAN AUDIO

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## New Kia EV9 receives EV-optimised Meridian Audio

- Designed for unique characteristics of electric vehicles
- Seamless support for both surround sound and stereo
- Concept car interior design purity retained

The new top-of-the-range Kia EV9 flagship SUV, which will be launched across Europe, Asia and the US for the 2024 model year, will be one of the first vehicles to be specified with a sound system designed and tuned specifically for the unique audio characteristics of a pure electric vehicle. Developed by British pioneers Meridian Audio following extensive research into the requirements for delivering an immersive acoustic experience in electric vehicles, the 14-speaker system employs a suite of proprietary Digital Signal Processing technologies optimised for this surprisingly challenging acoustic environment.

The electric-only EV9 SUV is the third Kia vehicle to feature Meridian technology, following the K8 luxury sports sedan and the EV6 electric crossover.

“Based on the success of our current collaborations, Kia challenged us to engineer an immersive surround sound system that will introduce a whole new in-car experience for all occupants,” explains Meridian Audio chief executive, John Buchanan. “Kia wanted to retain the design purity of the EV9 concept car, so we worked closely with their design team from an early stage to ensure this could be delivered without affecting audio quality, cost or manufacturability.”

### Managing EV Background Noise

“The challenge with delivering a fantastic audio experience in an EV isn’t the level of the background noise, it’s the complexity of noise sources and their frequency profiles,” asserts Buchanan. “These are typically at significantly higher frequencies than in a combustion vehicle, which can affect our ability to perceive the position of sounds, and they can be more random, which makes the acoustic environment more difficult to manage with active noise cancellation.”

The solution, according to Buchanan, is to move the focus from hardware to software, managing the acoustic environment through Meridian’s proprietary Digital Signal Processing algorithms and then overlaying further DSP technologies to tailor the sound to the requirements of the specific vehicle and the tastes and activities of the vehicle occupants. Meridian typically re-invests around 15 percent of revenue in research, with a significant proportion focussed on software for optimising and tailoring the audio signal in a given listening environment.

Meridian’s engineers have selected and tailored a suite of DSP technologies for the EV9. Meridian RE-Q intelligently and discreetly optimises the audio system to the precise acoustics of the vehicle cabin, while Meridian Digital Precision maximises the signal-to-noise ratio, preserving the natural rhythm of the performance. Meridian Horizon, an upmixing technology, provides multi-channel audio from both two-channel stereo and native 5.1 content, seamlessly delivering a surround sound experience complete with centre image and ambience level controls for the user. Meridian Intelli-Q Data-Driven Equalisation psychoacoustically optimises audio playback by responding to the changing nature of the in-car acoustic environment as vehicle speed changes.

“Intelli-Q also allows us to manage the unique acoustic inputs of an electric vehicle,” explains Buchanan. “Unlike earlier systems that simply increase the volume as a response to background noise, Meridian’s proprietary technology reacts to the profile of the background noise, for example increasing the low and mid ranges as tyre noise becomes more prominent with speed or rougher road textures. This gives us a managed acoustic environment onto which we can build an immersive, captivating listening experience.”

An open-air connected subwoofer (OCS) was selected for the EV9 as it removes the need for a large box enclosure. Conventional enclosures require substantial packaging volume and can create resonances and rattles. They also limit frequency extension and timing. The combination of the OCS and Meridian's proprietary tuning techniques has eliminated these issues, providing exceptional bass performance that is fast, precise and deep for all seating positions.

Kia Corporation's Head of Product Planning, Byungchul Cho, says that for more than forty years, Meridian has driven the audio industry forward as a pioneer of high-performance, high-fidelity reproduction. "We are excited to be integrating Meridian's authentic and natural sound in the new EV9," he comments. "Every element of the interior has been designed with occupant-centric convenience in mind, and this collaboration provides a very special, British premium sound experience for our customers."

Building on Mr. Cho's comments, Dr. Soonkwon Paik, Vice President of Infotainment Engineering Group at Hyundai Motor Group, states "Our goal is to add a very special experience for Kia customers, and this includes Meridian's revered sound quality, with its added sense of accuracy and space and an elaborate yet refined branded speaker grille design. We are very proud of this collaboration and are excited to be bringing Meridian's unique sound experience to KIA's flagship SUV, the KIA EV9."

Kia's deep relationship with Meridian has also benefitted from the audio specialist's approach to sourcing, which allows a hardware-independent route to flexible, upgradeable in-car audio platforms. "By working closely with Mobis, Kia's chosen hardware first tier, we were able to support their desire to improve manufacturability, packaging and costs," adds Buchanan.

## About Meridian Audio

Meridian is a multi-award winning British audio technology innovator with a rapidly growing automotive business. In home audio, Meridian is best known for the hi-fi and surround sound cinema products chosen for many of the world's most astonishing residences and super yachts. For the demanding in-car environment, the company focusses on pioneering DSP and other software technologies, supported by deep expertise in electronics, hardware integration and system tuning. Many of the world's most ambitious vehicle manufacturers trust Meridian to support their audio system design, adding value to their most premium systems through the addition of the Meridian brand. Meridian is a technology-driven business that invests around 15% of revenue in R&D, ensuring a full pipeline of innovations that deliver exciting upgrade paths for its customers.

### Press Contact for Meridian Audio's automotive business

To arrange an interview on this or any related topic, call Meridian Audio's automotive PR specialist, who is always happy to talk through ideas.

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